NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
FACT SHEET

(pursuant to Nevada Administrative Code 445A.236)

Permittee Name: Staker & Parson Companies
P. O. Box 27598
Salt Lake City, UT 84116

Permit Number: NV0023531

Location: 2755 Last Chance Road
Elko, NV 89801

Township 34 N, Range 56E, Sections 1 & 12,
Elko County, Nevada

Discharge Location:
Latitude: 40° 50′ 40.2″ N
Longitude: 115° 44′ 1.7″ W

General:

Staker & Parsons Companies owns and operates a sand and gravel mining and processing operation adjacent to and south of the Humboldt River in Elko, Elko County, Nevada. The company proposes to discharge groundwater, collected during gravel pit dewatering activities, to the Humboldt River, at a rate of up to 6000 gallons per minute (gpm).

Because of the proximity of the mining operation to the river, groundwater flows into the excavation and must be pumped out to access sand and gravel material to be processed. The company proposes to pump water from the active extraction area, convey the water to a series of two earthen settling basins to remove fine particles, and discharge the water to the river.

Sand and gravel mining operations are administered under the Clean Water Act, as amended, and are specifically regulated under Part 40 CFR 436.30 of the Code of Federal Regulations. A National Pollutant Discharge Elimination System (NPDES) Permit is required.

Discharge Flow and Characteristics:

Chemical analyses of the water to be discharged, submitted with the NPDES permit application indicate very good water quality. Samples were taken in July 2006, with the following analytical results:

PARAMETER	RESULTS (mg/l unless specified))	PARAMETER	RESULTS (mg/l unless specified))	PARAMETER	RESULTS (mg/l unless specified))
BOD_5	ND (<2)	Magnesium	16	Copper	ND (<0.01)
COD_5	23	Total Alkalinity as CaCO3	190	Fluoride	0.51
Total Organic Carbon	5.4	Total Petroleum Hydrocarbons	ND (<0.5)	Iron	ND (<0.3)
Total Suspended Solids	3.0	Oil and Grease	ND (<5)	Lead	ND (<0.005)
Temperature (°C)	16.5	Volatile Organic Compounds	ND (<2µg/l)	Manganese	ND (<0.005)
pH (Standard Units)	8.6	WAD Cyanide	ND (<0.005)	Mercury	ND (<0.001)
Ammonia as Nitrogen	ND (<0.10)	Aluminum	ND (<0.2)	Nickel	ND (<0.01)
Nitrate as N	ND (<0.25)	Antimony	ND (<0.005)	Selenium	ND (<0.005)
Nitrite as N	ND (<0.25)	Arsenic	ND (<0.005)	Silver	ND (<0.005)
Total Dissolved Solids	310	Beryllium	ND (<0.004)	Sodium	21
Chloride	21	Boron	ND (<0.1)	Thallium	ND (<0.002)
Sulfate	61	Cadmium	ND (<0.005)	Zinc	ND (<0.1)
Barium	0.068	Chromium	ND (<0.005)		

Receiving Water Characteristics:

The receiving water is the Humboldt River, upstream of the Palisade Gage control point and downstream of the Osino control point. Beneficial uses for the entirety of the Humboldt River are listed in Nevada Administrative Code (NAC) 445A.202. Water quality standards for the reach of the Humboldt River in question are listed in NAC 445A.204, and are given below. Current water quality data for this reach of the river, published by the NDEP Bureau of Water Quality Planning, are also listed.

PARAMETER	REQUIREMENTS TO MAINTAIN EXISTING HIGHER QUALITY	WATER QUALITY STANDARDS FOR BENEFICIAL USES	BENEFICIAL USES (Most Restrictive Beneficial use given in bold type)	HUMBOLDT RIVER MONITORING DATA (6/1996 – 8/2004)		
				AVG	MAX	MIN
Temperature °C - ΔT - Single Value[a]	ΔT = 0°C	ΔT ≤2°C	**7**[b] and 3.	11.4	24.3	-1
pH Units Standard Units	A-Avg. : 7.0 - 8.5 S.V. : 7.0 - 8.6	S.V. : 6.5 - 9.0 ΔpH : ±0.5	**3**,[b] **8**,[b] 7, 1, 2, 6 and 5.	8.51	9.2	7.7
Dissolved Oxygen - mg/l	—	S.V. : ≥5.0	**7**,[b] 3, 8, 2, 6 and 4.	9.44	18	2.5
Chlorides - mg/l	A-Avg. : ≤21 S.V. : ≤30	S.V. : ≤250	**6**,[b] 8, 1, and 2.	16.89	71	6
Total Phosphorus (as P) - mg/l	—	Apr.-Nov. Seasonal Avg. : ≤0.1	**7**,[b] 3, 6 and 4.	0.09	0.27	0.02
Nitrogen species (N) - mg/l	Total Nitrogen A-Avg. : ≤1.4 Apr.-Nov. S.V. : ≤2.4	Nitrate S.V. : ≤10 Nitrite S.V. : ≤1.0	**6**,[b] 8, 1, 2, and 7.	Total Nitrogen		
				0.52	1.11	0.18
				Nitrate		
				0.04	0.33	0
				Nitrite		
				<0.01	0.02	<0.01
Total Ammonia (as N) - mg/l	—	f	**7**.[b]	<0.1	0.13	<0.1
Total Dissolved Solids - mg/l	A-Avg. : ≤350 S.V. : ≤400	A-Avg. : ≤500	**6**,[b] 1 and 2.	294.2	500	200
SuspendedSolids - mg/l	—	Annual : ≤80[e] Median	**7**.[b]	51	246	1
Sulfate - mg/l	—	S.V. : ≤250	**6**.	37.47	76	15
Color - PCU	d	No Adverse Effects	**6**.[b]	17	55	2
Turbidity - NTU	—	S.V. : ≤50	**7**[b] and 6.	25.7	95	2.3
Fecal Coliform - No./100ml	Annual Geometric Mean : ≤20 S.V. : ≤150	≤200/400c	**3**,[b] 4, 6, 1, 8 and 2.	28	150	10
E coli - No./100ml Annual Geometric Mean Single Value	 — —	 ≤126 ≤410	**3**,[b] and 4.	37	207	1
Sodium - SAR	—	A-Avg. : ≤8	**1**[b] and 6.	Not Monitored		

a. Maximum allowable increase in temperature above water temperature at the boundary of an approved mixing zone.
b. The most restrictive beneficial use.
c. Based on the minimum of not less than 5 samples taken over a 30-day period, the fecal coliform bacterial level may not exceed a geometric mean of 200 per 100ml nor may more than 10 percent of the total samples taken during any 30-day period exceed 400 per 100ml.
d. Increase in color must not be more than 10 PCU above natural conditions.
e. The maximum allowable point source discharge is S.V. ≤80 mg/l of suspended solids.
f. The ambient water quality criteria for ammonia are specified in NAC 445A.118.

Beneficial Use Codes

1. Irrigation;
2. Watering of livestock;
3. Recreation involving contact with the water;
4. Recreation not involving contact with the water;
5. Industrial supply;
6. Municipal and/or domestic supply;
7. Propagation of aquatic life including warm-water fisheries; and
8. Propagation of wildlife

The October 2002 303(d) State of Nevada "List of Impaired Waterbodies" provides a compilation of pollutants or stressors of concern for the reach of the Humboldt River from Osino to Palisades Gage. These are total iron, total phosphorus, and turbidity. Additionally, pH and chlorides have been identified as pollutants of concern because the river water quality does not meet the requirements to maintain existing higher quality (RMHQ) for these constituents. Total maximum daily loads (TMDL) for total phosphorus and total suspended solids (TSS) exist for the reach of the Humboldt River in question.

Proposed Effluent Limitations and Special Conditions:

The following are the proposed effluent limitations and monitoring requirements:

PARAMETER	EFFLUENT LIMITATIONS		MONITORING REQUIREMENTS	
	30-Day Average	Daily Maximum	Monitoring Frequency	Sample Type
Flow (MGD)	5.184	Monitor & Report	Continuous	Flow Meter
pH (Standard Units)	---	6.5 – 9.0	Monthly	Discrete
Dissolved Oxygen (mg/l)	---	≥5.0	Monthly	Discrete
Total Nitrogen (mg/l)	≤1.4	April – November: ≤2.4	Monthly	Discrete
Ammonia as N (mg/l)	0.264 [a]	1.32 [b]	Monthly	Discrete
Total Petroleum Hydrocarbons (mg/l)	---	1.0	Monthly	Discrete
Total Dissolved Solids (mg/l)	350	Monitor & Report	Quarterly	Discrete
Total Suspended Solids (mg/l)	80	---	Quarterly	Discrete
Total Phosphorus (mg/l)	April – November Seasonal Avg. 0.1	---	2nd, 3rd & 4th Quarters	Discrete
Total Iron (mg/l)	1	Monitor & Report	Quarterly	Discrete
Sulfate (mg/l)	---	250	Quarterly	Discrete
Chlorides (mg/l)	21	Monitor & Report	Quarterly	Discrete
Turbidity (NTU)	---	50	Quarterly	Discrete

a. The listed 30-Day Average effluent limitation is the chronic water quality criteria for total ammonia for waters where freshwater fish in early life stages may be present at pH of 9.0 and temperature of 24 ° C, as listed in NAC 445A.118. The concentration of total ammonia, in milligrams of nitrogen per liter, expressed as a 30-day average must not exceed the applicable chronic criterion listed more than once every 3 years on average.

b. The listed Daily Maximum effluent limitation is the acute water quality criteria for total ammonia for freshwater aquatic life listed in warm water fisheries at pH 9.0, as listed in NAC 445A.118.. The concentration of total ammonia, in milligrams nitrogen per liter, must not exceed the listed daily maximum value more than once every three years, on average.

Schedule of Compliance:

a. The Permittee shall implement and comply with the provisions of the Schedule of Compliance after approval by the Administrator, including in said implementation and compliance, any additions or modifications that the Administrator may make in approving the Schedule of Compliance.

b. **By MMM DD, 2007**, the Permittee shall submit, for review and approval, the Operations and Maintenance (O&M) Manual for the facility.

Rationale for Permit Requirements:

The permit limitations are based on the following rationale:

Flow: Flow limit is set at the level requested by the applicant. The limit of 5.184 MGD is approximately 8.0 cubic feet per second (cfs). At low flow conditions on the Humboldt River (14 cfs), this volume could account for approximately 57% of the total stream flow, and could have significant impact on river water quality.

pH: pH limits are specified in Part 40 CFR 436.30 of the Code of Federal Regulations. This limit is the only categorical limit specified in the CFR for sand and gravel mining operations. These same limits are listed in the water quality standard for beneficial uses for the Humboldt River at Palisade Gage, as listed in NAC 445A.204. The water quality of this reach of the Humboldt River does not meet the Requirements to Maintain Existing Higher Quality (RMHQ) listed in NAC 445A.204.

Dissolved Oxygen: The dissolved oxygen limit is the water quality standard for beneficial uses for the Humboldt River at Palisade Gage, as listed in NAC 445A.204.

Chloride: Chloride levels for the Humboldt River at the Palisade Gage meet the requirement to maintain existing higher quality (RMHQ) levels of 21 mg/l for the annual average. However, the river's single value chloride level exceeds the RMHQ limit of 30 mg/l. Therefore, the proposed permit limit shall be set at the annual average, and a daily maximum limit shall not be applied.

Total Phosphorus: The total phosphorus limit is the water quality standard for beneficial uses for the Humboldt River at Palisade Gage, as listed in NAC 445A.204

Total Iron: The total iron limit is set at the 96-hour average limit for aquatic life, as listed in NAC 445A.144, "Standards for toxic materials applicable to designated waters".

Nitrogen Species: The Humboldt River meets the RMHQ total nitrogen levels for both the annual average 1.4 mg/l and the single value of 2.4 mg/l. Therefore, these limits apply to the discharge.

Total Ammonia: NDEP-BWQP water quality monitoring data for the Humboldt River at Palisade Gage indicates that the maximum pH measured is 9.0 and the maximum temperature recorded is 24 °C. Further, it is reasonably expected that freshwater fish in early life stages will be present in the river reach of concern. Pursuant to NAC 445A.118 and based on the reported river pH and temperature, the total ammonia limits are established as 0.264 mg/l (chronic water quality criteria) for the 30-day average, and 1.32 mg/l (acute water quality criteria) for the daily maximum. These limits may not be exceeded more than once in 3 years, on average.

Total Dissolved Solids: Total dissolved solids (TDS) levels for the Humboldt River at the Palisade Gage meet the requirement to maintain existing higher quality (RMHQ) levels of 350 mg/l for the annual average. However, the river's single value TDS level of 500 mg/l exceeds the RMHQ limit of 400 mg/l. Therefore, the proposed permit limit shall be set at the annual average, and a daily maximum limit shall not be applied.

Total Suspended Solids: The total suspended solids (TSS) limit is the water quality standard for beneficial uses for the Humboldt River at Palisade Gage, as listed in NAC 445A.204.

Sulfate: The sulfate limit is the water quality standard for beneficial uses for the Humboldt River at Palisade Gage, as listed in NAC 445A.204.

Turbidity: The turbidity limit is the water quality standard for beneficial uses for the Humboldt River at Palisade Gage, as listed in NAC 445A.204.

Total Petroleum Hydrocarbons: The limit for this constituent is set pursuant to Best Management Practices.

Procedures for Public Comment

The Notice of the Division's intent to issue an NPDES permit authorizing this facility to discharge to the Humboldt River for a five-year period, subject to the conditions contained within the permit, is being sent to the **Elko Daily Free Press** for publication. The Notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of thirty (30) days following the date of publication of the notice in the newspaper. The comment period can be extended at the discretion of the Administrator. The deadline date and time by which all comments are to be submitted (via postmarked mail or time-stamped faxes, emails or hand delivered items) to the Division is **March 17, 2008 by 5:00 P.M.**

A public hearing on the proposed determination can be requested by the applicant, any affected State or interstate agency, the Regional Administrator, or any interested agency, person, or group of persons. The request must be filed within the comment period, and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Proposed Determination:

The Division has made the tentative determination to issue the proposed NPDES discharge permit for a period of five (5) years.

Prepared by: Janine Hartley
Staff Engineer II
January 2008